TFW 1754

294G 1839-10

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

DANIEL T. COLBERT et al.

Serial No.: 10/027,670

Filed: December 21, 2001

For: METHOD FOR FORMING COMPOSITE ARRAYS OF SINGLE-WALL CARBON NANOTUBES AND COMPOSITIONS THEREOF

Art Unit: 1754

Examiner: Lish, Peter J.

CITATION OF PRIOR ART

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In regards to the above-identified application, it is respectfully requested that the Examiner consider each relevant prior art listed below:

A. Publication Article "Morphological Modeling of Atomic Force Microscopy Imaging Including Nanostructure Probes and Fibrinogen Molecules" written by D.L. Wilson et al, pages 2407-2416, published by American Vacuum Society in July 1996 in the U.S., being accompanied by a copy of Web page of American Vacuum Society showing that the Article was published in July, 1996;

B. Publication Article "Unraveling Nanotubes: Field Emission From an Atomic Wire" written by A.G. Rinzler et al, pages 1550-1553 in *SCIENCE* magazine and published on September 15, 1995 in the U.S.; and

C. Publication Article "Morphological Restoration of Atomic Force Microscopy Images" written by David L. Wilson, et al, pages 265-272, published by American Chemical Society in 1995 in the U.S.

The prior art A discloses the use of tip end of a minute or very small probe, which is made of nanotubes and Backy tubes or balls, in an atomic force microscopy (AMF) for executing AMF scanning. For measured electron-beam deposited carbon probes, $B \approx 0.015\ nm^{-1}$ is determined in this prior art as discussed on pages 2409 and 2410.

The prior art B discloses a multi-layer (multiwalled) carbon nanotube attached to the stalk made of a plurality of other nanotubes with its tip end projecting out as seen from Fig. 1 on page 1550 and Fig. 3 on page 1552. The attachment of the nanotube to the stalk is made by Van Der Waals (vdW) forces.

The prior art C discloses on pages 268 and 269 ultra-sharp carbon spikes grown on top of silicon nitride pyramid tips. The carbon spikes are grown by first soaking the entire cantilever assembly in acetone and then exposing the apex of the Si_3N_4 tip to a stationary focused beam for two minutes. In other words, the prior art C discloses a needle-like carbon spike grown to project on a silicon nitride pyramid.

In view of the above, it is respectfully requested that the above prior art be entered and considered.

Please charge any addition costs incurred to Koda & Androlia Deposit Account 11-1445.

Respectfully Submitted,

By: _____
William L. Androlia
Reg. No. 27,177

2029 Century Park East, Suite 1140
Los Angeles, CA 90067
Tel: 310-277-1391
Fax: 310-277-4118

CERTIFICATE OF MAILING

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INFORMATION DISCLOSURE STATEMENT

(Use as many sheets as necessary)

Sheet | | of | |

Complete if Known	
Application Number	10/027,670
Filing Date	December 21, 2001
First Named Inventor	DANIEL T. COLBERT
Art Unit	1754
Examiner Name	Lish, Peter J.
Attorney Docket Number	294G 1839-10

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	A	"Morphological Modeling of Atomic Force Microscopy Imaging Including Nanostructure Probes and Fibrinogen Molecules" written by D.L. Wilson et al, pages 2407-2416, published by	
		American Vacuum Society in July 1996 in the U.S., accompanied by a copy of Web page of American Vacuum Society showing that the Article was published in July, 1996	
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	C	"Morphological Restoration of Atomic Force Microscopy Images" written by David L. Wilson, et al, pages 265-272, published by American Chemical Society in 1995 in the U.S.	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.